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09/763,319	04/11/2001	Klaus Fieback	22994 PCT/US	4821

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Martin A Farber  
866 United Nations Plaza Suite 473  
New York, NY 10017

EXAMINER

VO, HAI

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 12/11/2002

11

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/763,319

Applicant(s)

FIEBACK ET AL. mk - 11

Examiner

Hai Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) 29-39 and 52-64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 and 40-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 and 7. 6) ☐ Other: \_\_\_\_

***Election/Restrictions***

1. Applicant's election without traverse of Group I, claims 1-28 and 40-51 in Paper No. 10 is acknowledged.

***Claim Objections***

2. Claims 1-28 and 40-51 are objected to because of the following informalities: The phrase "characterized in that" needs to be changed to --comprising-- or --wherein--. Appropriate correction is required.
3. Claims 21, 22, 28 and 40 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims 21, 22, 28 and 40 have not been further treated on the merits.

\* The examiner suggests the reference characters should be removed from the claims.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-28 and 40-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-28 and 40-51, the claim language is unclear. Does Applicant mean that the latent heat storage material is formed inside the capillary holding

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space of the carrier material or the latent heat storage material can be formed inside and outside the capillary holding space of the carrier material?

Regarding claim 4, lines 4 and 5, the phrase "a distributed manner" is unclear. There is nothing defined or specific about "a distributed manner" in the specification.

Regarding claims 15 and 28, the term "plate-like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Regarding claims 1 and 41, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claims 2-28, 40, 42-51, the phrase "or in particular according thereto" is unclear.

Claim 11 recites the limitation "the sheath" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 5, 16, 18, 43, 47 and 51, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim

indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 5 recites the broad recitation of 5 to 50% mass of the latent heat storage material, and the claim also recites 25% and further preferably 40 to 50% mass of the latent heat storage material which is the narrower statement of the range/limitation.

Regarding claims 14, 41, 48 and 49, the claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Regarding claims 14, 41 and 49, the phrase "a number" needs to be changed to --a plurality--.

Regarding claim 48, the sentence "a typical geometric dimension of a carrier material part-body or of a latent heat part-body is of the order of magnitude of a few millimeters to a few centimeters" is unclear. What is a typical geometric dimension that Applicant wants to convey?

#### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-7, 13-22, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Houle et al (US 4,988,543). Houle discloses a porous gypsum board impregnated with a paraffin phase change material (PCM) wherein the gypsum board comprises fiberglass (column 3, lines 54-63). Since Houle is using the same gypsum material to form a mineral substance as Applicant, it is the examiner's position that the open capillary pore structure of the gypsum material would be inherently present. Further, the capillary holding space would be inherently produced from the glass fibers adjoining one another and/or by the gypsum material in combination with the fiberglass. Likewise, it is clearly apparent that the porous gypsum board of Houle is formed as a cohesive structure (see page 5, lines 20-35 of the Applicant's specification). Houle teaches the board comprising the PCM in an amount up to 20 % by weight (column 2, lines 14-15). With regard to claims 6, 7, since the porous gypsum board of Houle meets all the limitations of structure in the claims, the air absorption of the PCM would be inherently present within the range as set forth in the claims. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in Ex parte Slob, 157 USPQ 172). With regard to claims 14 and 15, figures 1 and 3 shows that the boards are in a plate form. With regard to claims 16-22, and 27, it has been held that a recitation with respect to the manner in which a claimed floor heating is intended to be employed does not differentiate the claimed floor heating from a prior

art composite satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). It is the examiner's position that Houle anticipates the claimed subject matter.

8. Claims 1-10, 13-23, 27, and 40-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Salyer (US 5,053,446). Salyer discloses a composite comprising a polyolefin fiber matrix impregnated with a paraffin phase change material (PCM) (abstract) wherein the matrix further comprises gypsum material (column 11, lines 30-35). Since Salyer is using the same gypsum material to form a mineral substance as Applicant, it is the examiner's position that the open capillary pore structure of the gypsum material would be inherently present. Further, the capillary holding space would be inherently produced from the polyolefin fibers adjoining one another. Likewise, it is clearly apparent that the porous composite of Salyer is formed as a cohesive structure (see page 5, lines 20-35 of the Applicant's specification). Table 3 shows that the amount of PCM meets the specific range as set forth in the claims. With regard to claims 6, 7, 42, 43, and 48, since the composite of Salyer meets all the limitations of structure in the claims, the air absorption of the PCM and the uniform distribution of fiber, pellet dimension would be inherently present. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in *Ex parte Slob*, 157 USPQ 172). With regard to claim 8, Salyer discloses the composite comprising the Portland cement concrete which is analogous to the claimed thickening agent (column 11, line 44). With regard to claims 9 and 44, Salyer discloses the PCM including a

mineral oil and a polymer (column 9, lines 29-30). With regard to claim 10, Salyer discloses the composite in the form of a beverage container which inherently forms a sheath structure (column 8, lines 42-44). With regard to claims 14 and 23, Salyer discloses the composite can be cut into pellets that is impregnated with a PCM for use in the floor coverings (column 8, lines 5-7). With regard to claim 15, the composite is formed in the shape of a plate (column 12, line 10). With regard to claims 16-22, and 27, it has been held that a recitation with respect to the manner in which a claimed floor heating is intended to be employed does not differentiate the claimed floor heating from a prior art composite satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). With regard to claims 40, 41, 45, 49, and 51, the composite in the form of pellets can be incorporated into cementitious composition which is analogous to the claimed embedding material (column 11, lines 49-65). With regard to claims 46 and 50, the concrete is used from 50 –70% by volume (column 11, line 45). With regard to claims 47 and 50, table 3 shows the amount of PCM meeting the specific range as set forth in the claims. It is the examiner's position that Salyer anticipates the claimed subject matter.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



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10. Claims 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salyer (US 5,053,446) in view of Kaercher et al (US 3,687,351). Salyer discloses the composite in the form of a beverage container (column 8, lines 42-44). Kaercher teaches the beverage container having a film/foil material, foil layer 20, a plastic film layer 44 (figure 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the beverage container having the film/foil material because the film/foil material is a typical material widely used in the beverage containers.

With regard to claim 12, Salyer discloses the beverage container being impermeable to the PCM (column 8, lines 61-63).

11. Claims 24-26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salyer (US 5,053,446) in view of Buckley (US 6,004,662). Salyer is silent as to the phase transition temperature of the latent heat storage material of the first layer different from that of the latent heat storage material of the second layer. Buckley teaches the PCM in layers 1, 2, 3 of the composite having different phase transition temperatures (figure 10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the latent heat storage material in the first and second layers having different phase transition temperatures to control the rate of the heat absorption of the composite.

### ***Conclusion***


12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426.

The examiner can normally be reached on Tue-Fri, 8:30-6:00 and on alternating Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV  
December 4, 2002



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